SWIMMING POOL HEAT PUMP

Owners Manual

This manual refers to the 17.0kw and 21.0kw models only.

The heat pump unit is sold with a 1 year warranty.
In addition there is a 2 year parts warranty on the compressor
and a 5 year parts warranty on the titanium heat exchanger.
Please contact your supplying dealer in the event of a claim.

This heat pump is designed for domestic use between May and September.
To achieve satisfactory performance a minimum ambient air temperature of 15℃ is required.
The heat pump needs to be run for a minimum of 8 hours in 24 during the warmest part of each day.
A solar or heat retention swimming pool cover must be used.

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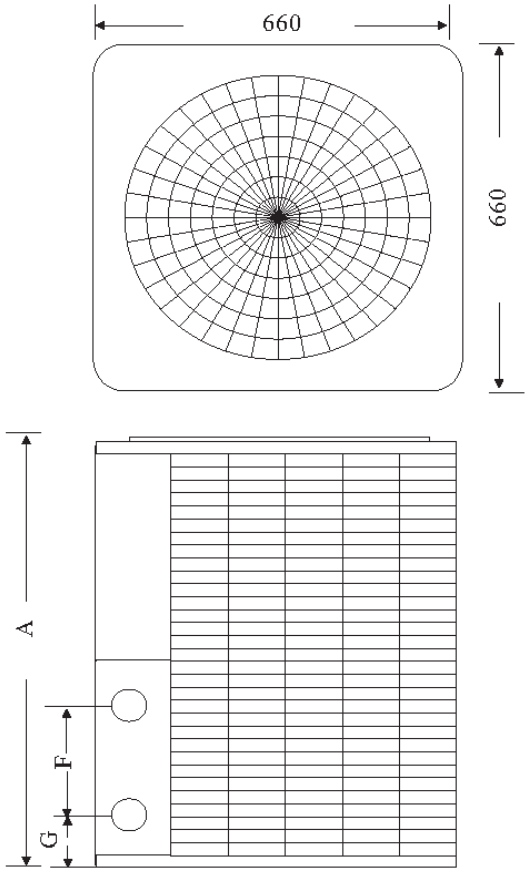
A. Positioning Your Swimming Pool Heat Pump

1. For correct operation air must be free to circulate around the heat pump. Do not place the unit in a shed, greenhouse or similar. This unit is designed to be placed outdoors only.
2. Ensure there is at least 1000mm (1.0m) of clearance all around each side of the heat pump to allow air circulation and access for maintenance.
3. Do not block the top air exit where the fan expels air upwards from the unit. There must be no obstruction above this air exit for at least 2000mm (2.0m).
4. You should position the heat pump so that the control panel does not face directly towards the sun.
5. The heat pump must be upright.
6. The distance between the heat pump and the pool / plant room should be as short as practically possible to reduce pressure and heat loss in the pipe work.
7. Insulating the pipe work will assist with the prevention of heat losses.
8. An isolator switch should be installed (by a qualified electrician) near the heat pump.
9. The electrical supply to the heat pump must be protected by a 30mA RCD.
10. The air inlets and outlets must not be obstructed or blocked.
11. Even though the heat pump is low noise, it must be positioned so as to be considerate to neighbours.
12. Your heat pump must be placed on a solid base.
13. Condensation will drip from underneath the heat pump, your base must be able to tolerate this.

B. Connecting Your Swimming Pool Pipe Work

1. The pool water is fed through the heat pump by a swimming pool pump.
2. The heat pump must be installed after (down stream) the swimming pool filter so clean, filtered water passes through it.
3. Double union ball valves must be fitted just before the heat pump inlet and just after the outlet to aid servicing and winterising.
4. Each heat pump has a maximum water flow rate. If the flow via the pool pump is higher than this then a by-pass should be installed. Consult your supplying dealer.
5. Each heat pump also has a minimum flow rate, below this the heat pump will not operate. Consult your supplying dealer.
6. Pipe work of less than 1½" diameter should not be used.
7. Fit a union nut onto each pipe.
8. Push the gasket over the pipe until the gasket is about 5 -10mm from the edge of the pipe. You may need to lubricate the gasket.
9. Insert the pipe into the heat pump and tighten the union nut.
10. The union must only be hand tightened.
11. If the swimming pool is equipped with a chlorinator, brominator, or possibly chemical control with acid and chlorine pumps, these must be in the return pipe work after the heat pump and a non-return valve used. Any dosing system must be the final equipment before the water returns to the swimming pool. Damage caused to the heat pump by chemical dosing units is not covered by warranty.
12. Any heat exchanger or electric heater fitted as auxiliary heating must be installed after (down stream from) the heat pump so as to avoid pre-heating the pool water before it enters the heat pump.

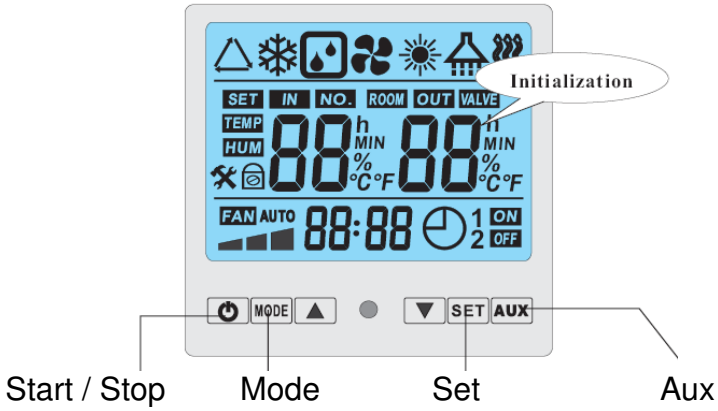
C. Sizes of Your Swimming Pool Heat Pump



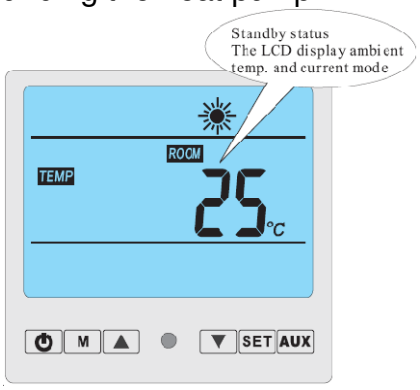
	WBR-17.0H-A	WBR-21.0H-A-S
A	855	955
B	660	660
C	660	660
F	370	370
G	110	110

D. Starting Your Swimming Pool Heat Pump

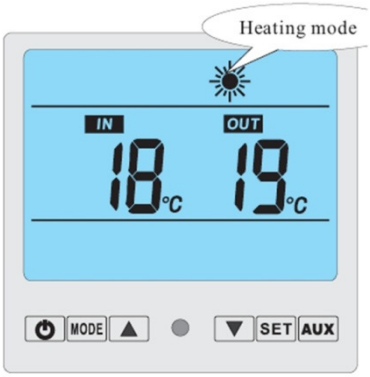
1. Do not switch on the power to your heat pump unless your swimming pool pump is running and you have a good flow rate. Required flow rates are given in the technical information section.
2. Switch on the main power supply to the heat pump. The display will briefly show all options.



3. After a few seconds the display shows ROOM and a temperature. This is the temperature of the air surrounding the heat pump.

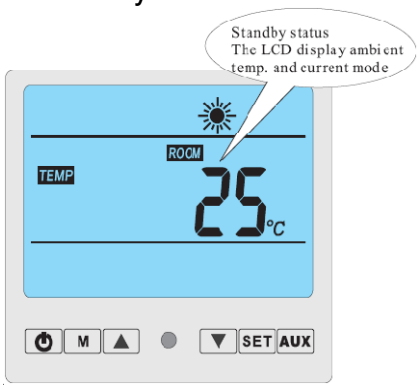


4. Push the START/STOP button and await the display to show the inlet and outlet temperature.
5. Note that when you first push the START/STOP button the heat pump fan and compressor will not start immediately.
6. If the water flow from the pool pump is correct, the heat pump will start after a 2 - 3 minute pause due to a delayed start facility.
7. When the heat pump is operational the display will show temperatures for the pool water inlet and outlet.

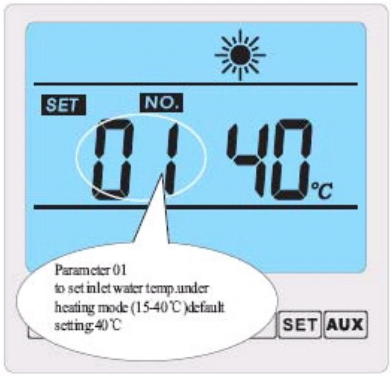


E. Setting the Temperature of Your Swimming Pool Heat Pump

1. If your heat pump fan and compressor is running press the START/STOP button to make the heat pump enter its standby mode.



2. Press the set button repeatedly until SET NO 01 shows with the set point temperature in degrees C.



3. Use the up arrow button and the down arrow button to adjust the set point temperature to your desired point. If you have a liner type swimming pool do not exceed the recommended maximum temperature for the liner (often 28℃).
4. The display will return to the standby mode after a few seconds.
5. Restart the heat pump by pressing the START/STOP button.
6. After the 2 – 3 minute delay the heat pump will re-start with the new set temperature.

F. Checking the Status of Your Swimming Pool Heat Pump

1. When the heat pump is running press the up or down arrow to scroll through the status readings as below.
2. IN & OUT are the respective temperatures at the water inlet and outlet. Note that when you have a good flow rate through the heat pump the difference may be less than 1℃ so it appears there is no difference.
3. P1 is the temperature of condenser 1, P2 is the temperature of condenser 2. Note that some models have just one condenser so a reading may not be present for both P1 & P2.
4. ROOM is the temperature of the air around the heat pump.

G. Changing the Mode of Your Swimming Pool Heat Pump

1. In some regions the swimming pool heat pump is equipped with the option to cool the swimming down.
2. Make sure the heat pump is in standby (power on but fan and compressor not running) by using the START/STOP button.
3. Press the MODE button to scroll through the available modes.
4. The snow flake symbol indicates cooling.
5. The sunshine symbol indicates heating.
6. The three arrows in a triangle is the automatic mode where the heat pump would choose to heat or cool the pool depending on the set temperature.
7. For pool heating in the UK keep the heat pump in the heating mode (sunshine symbol).
8. If pressing the MODE button does not change the mode and the heat pump remains in the heat mode (sunshine symbol) then the cooling and automatic modes have been deactivated.
9. If pressing the MODE button does not change the mode and the heat pump is not in the heating mode, firstly make sure you are in standby and then try again. If you can not change the mode at all refer to the troubleshooting (changing parameters) section.

H. Auxiliary Mode of Your Swimming Pool Heat Pump

1. The AUX button on the heat pump is not used.
2. When pressed the AUX button may make a wavy line symbol appear and disappear on the display but no equipment is operated.

I. Winterising and Maintenance of Your Swimming Pool Heat Pump

1. At all times only let swimming pool water through the heat pump which has the correct chemical balance.
    - Chlorine not to exceed 3 ppm
    - pH between 7.2 and 7.7
    - Total Alkalinity 90 – 150 ppm
    - Calcium Hardness 100 – 400 ppm
2. When it is decided to close down the swimming pool for the winter it is important that the heat pump be immediately emptied of water.
3. Ensure that pool water can not freely flow out of the pool and then loosen both coupling nuts to the pipe work and withdraw the pipes from the heat pump.
4. Drain all the water from the heat pump.
5. Also empty the pipes.
6. The heat pump warranty does not cover frost damage.
7. The heat pump may be left outside all the year round but if you do have some room for the heat pump in a shed or garage, this will be a perfect place to keep it for the winter period.
8. You may wish to cover the heat pump to protect it from the worst weather conditions but do not wrap up the unit too tightly, let air circulate around it.
9. Do not lay the heat pump on its side, always store upright.

J. Troubleshooting Your Swimming Pool Heat Pump: Error Codes

1. The most common problem reported is the heat pump showing a display but not running its fan and compressor. This is the time delay on start up. From pressing START/STOP there is a 2 – 3 minute delay before the fan and compressor start.
2. The second most common problem is insufficient flow through the heat pump indicated by EE 03. If your swimming pool filter has a multiport valve turn off the pool pump and turn the valve to “recirculate” , restart the pool pump and try the heat pump again. If this solves the problem make sure your sand filter is backwashed.
3. Another issue is not being able to operate the control panel at all. Look for a small padlock symbol on the display which means that the controls are locked. To release this press the up and down arrows together at the same time for about 5 seconds so that the padlock symbol disappears.
4. During the operating and defrosting process, the heat pump will yield a volume of condensed water. The condensed water from the cooling coil will drip from the bottom of the heat pump. Do not assume the condensed water is due to a fault or a leak in the heat pump.

The table below shows error codes the heat pump may display

Fault/Error	Display	Cause	Action
Water temperature in, sensor fault/error	PP 01	Sensor interrupted or short circuited	Test line, sensor and socket. May have to be replaced
Water temperature out, sensor fault/error	PP 02	Sensor interrupted or short circuited	Test line, sensor and socket. May have to be replaced
Coil 1 sensor fault/error	PP 03	Sensor interrupted or short circuited	Test line, sensor and socket. May have to be replaced
Coil 2 sensor fault/error	PP 04	Sensor interrupted or short circuited	Test line, sensor and socket. May have to be replaced
Ambient temperature sensor	PP 05	Sensor interrupted or short circuited	Test line, sensor and socket. May have to be replaced
Too high difference in temperature in/out.	PP 06	Water flow too low	Check valves, filter pump, filter and by-pass
Heating up	PP 07	Water flow too low	Check valves, filter pump, filter and by-pass
First frost proofing run	PP 08	Low out temperature	Empty system of water
Second frost proofing run	PP 09	Low out temperature	Empty system of water
Function error in system 1	EE 01	Function error in print card	Call technician
Function error in system 2	EE 02	Input voltage too low	Check main cable / electrician
Flow guard error	EE 03	Too small or too high flow	Check pool pump, piping, by-pass and ball cocks. Check technical spec
	EE 04		
Temperature fluctuations	EE 05	Water flow varying	Check pool pump and piping. Check valves, filter and by-pass
Defrosting	Logo	Cold coil / element.	None. Normal function
Communication error	EE 08	Communication error between control panel and control	Check cable connection. Call technician

K. Troubleshooting Your Swimming Pool Heat Pump: Parameter Setting

1. The heat pump has 11 control parameters from 00 to 10.
2. The parameters can be viewed but not changed while in operation mode. They can only be changed in stand-by mode.
3. Use the SET button to scroll through the parameters.
4. If you need to change a parameter make sure the heat pump is in standby mode.

Parameter	Description	Range	Default Setting	Remarks
00	Setting of cooling temp	8 – 28℃	12℃	For technician only
01	Setting of heat temp	15 – 40℃		To be set by user
02	Defrosting period	30 – 90 min.	45 minutes	For technician only
03	Coil temp. start defrosting	0 ~ -30℃	0℃	For technician only
04	Coil temp. stop defrosting	2 – 30℃	13℃	For technician only
05	Defrosting time	1 – 12 min	8 minutes	For technician only
06	System number	1 – 2	1	May not be changed
07	Re-start after power failure	0 / 1	1 = ja.	For technician only
08	Available Modes: Cooling only= 0 Heating + cooling = 1 Heating only= 3	0 – 3	3	For technician only
09	Work method.	0	0	May not be changed
10	Setting of water temp. (auto mode)	30℃	30℃	For technician only

5. With the exception of Parameter 01 (setting the pool temperature set point) these parameters are usually only changed by a service technician.
6. Most parameters can not immediately be changed, even in standby mode. If you are sure you want to change a parameter proceed as below.
7. Before you change a parameter write down what it was set on.
8. In standby mode use the SET button to chose the parameter that needs changing.
9. Press the up and down arrows at the same time for about 5 seconds until you hear a small bleep. This unlocks the parameter to enable setting.
10. Use the up and down arrow to set the parameter to the new desired level.
11. After a few seconds the panel will revert to the standby mode with the new setting stored.
12. If you need to check the parameter setting use the SET button to display that parameter.

L. Accessories

The heat pump has a housing and cover plate to allow the digital control panel it to be mounted remotely if required. A 5m extension line with socket for this purpose is provided with the kit.

M. Technical Information

Code			WBR-17.0H-A	WBR-21.0H-A-S
Rated Heating Capacity		W	17000	21000
		BTU's/hr	60000	73000
Input Power Heating		W	3500	4250
Running Current Heating		A	16.1	7.9
COP		w/w	4.8	4.9
Power Supply		v/ph/hz	220/1/50	
Number of Compressors			1	
Compressor Type			Rotary	Scroll
Number of Fans			1	
Input Power of Fan		W	200	200
Fan Rotation Speed		rpm	830	830
Noise Level		dB	60	60
Water Connection		inches	1½	1½
Water Flow Rate		m^3/h	5 - 8	6 - 10
Water Pressure Drop		KPa	16	16
Unit Dimension	L	mm	660	660
	W		660	660
	H		860	960
Packing Dimension	L	mm	700	700
	W		740	740
	H		1010	1110
Weight	Net	kg	108	111
	Gross		120	123

This product is CE marked. The HeatSeeker heat pump is tested to current EN standards: EN 55014-1:2001, EN 55014-2:1997, EN 61000-3-2:2001 and EN 61000-3-3:1995.LVD: EN 60335-2-40:2003, EN 60335-1:2002.